

IN THE CLAIMS

Please amend the claims as follows:

Claim 1. (Canceled)

Claim 2. (Currently Amended) The temperature-controlled shield ring according to claim [[1]]9, wherein the shield ring comprises:

~~a cap; and~~

a heat conducting element connected between the cap and a location where a substrate would rest during processing, the heat conducting element configured to transfer heat from the substrate to the cap.

Claim 3 (Original): The temperature-controlled shield ring according to claim 2, wherein the cap comprises a ceramic material.

Claim 4 (Original): The temperature-controlled shield ring according to claim 2, wherein the cap comprises anodized aluminum.

Claim 5 (Currently Amended): The temperature-controlled shield ring according to claim [[1]]9, wherein the coolant comprises a dielectric fluid.

Claim 6 (Currently Amended): The temperature-controlled shield ring according to claim [[1]]9, further comprising an insulator housed between the shield ring and the substrate holder.

Claim 7 (Currently Amended): The temperature-controlled shield ring according to claim [[1]]9, further comprising an adapter for connecting to a cooling system of the substrate to provide coolant exchange between the shield ring and the substrate holder.

Claim 8 (Currently Amended): The temperature-controlled shield ring according to claim [[1]]9, wherein the shield ring is configured to attach to the substrate holder without the use of fasteners.

Claim 9 (New): A temperature-controlled shield ring for shielding a substrate holder in a semiconductor processing system, the temperature-controlled shield ring comprising:

a cap having a coolant passage therein;

a plenum adaptor coupled to the cap and configured to connect to a coolant system for circulating coolant to the coolant passage, the plenum adaptor having a plenum adapter ring configured to be supported by a substrate holder.

Claim 10 (New): The temperature-controlled shield ring of claim 9, wherein the cap is coupled to the plenum adapter by at least one annular nut.

Claim 11 (New): The temperature-controlled shield ring of claim 9, further comprising at least one seal interposed between the cap and the plenum adapter, said seal being configured to impede and escape of said coolant from the coolant passage.

Claim 12 (New): The temperature-controlled shield ring of claim 11 wherein said at least one seal comprises a vacuum seal and a dielectric seal.

Claim 13 (New): The temperature-controlled shield ring of claim 12, further comprising a leak check port positioned between said vacuum seal and said dielectric seal.

Claim 14 (New): The temperature-controlled shield ring of claim 9, further comprising a heat conducting element comprising:

a first segment extending along and in contact with said cap, and

a second segment extending substantially perpendicular to the first segment and being configured to contact a focus ring surface and a substrate holder surface when the shield ring is coupled to a substrate holder assembly.

Claim 15 (New): The temperature-controlled shield ring of claim 14, wherein said second segment includes a protrusion extending substantially perpendicular from the second segment so as to provide a discrete surface for contacting the substrate holder surface.

Claim 16 (New): The temperature-controlled shield ring of claim 9, further comprising an insulating member adjacent to the first segment and configured to thermally insulate the shield ring from a substrate holder when the shield ring is coupled to a substrate holder.

Claim 17 (New): A substrate holder assembly comprising:

a temperature-controlled substrate holder having a first surface configured to support a semiconductor substrate, and a second surface surrounding a perimeter of the first surface and configured to support a shield ring; and

a temperature-controlled shield ring coupled to said second surface and having at least one coolant passage provided within the temperature-controlled shield ring.

Claim 18 (New): The substrate holder assembly of claim 17, wherein the temperature-controlled shield ring comprises a cap having the at least one coolant passage therein, and a plasma adapter coupled to the cap and configured to connect to a coolant system for circulating coolant to the coolant passage.

Claim 19 (New): The substrate holder assembly of claim 18, further comprising a focus ring coupled to said substrate holder and interposed between a perimeter of said substrate holder ring; and

a heat conducting element comprising a first segment extending along and in contact with said cap and a second segment extending substantially perpendicular from the first segment and contacting said focus ring and said substrate holder, wherein the heat conducting element provides a heat conduction path from said substrate, through said focus ring, to the shield ring.